

WHAT IS CLAIMED IS:

Sub a1
1. A method of applying a flowable substance to a web of wrapping material for rod-shaped products, comprising the steps of:

confining the web to movement along a predetermined path;
directing at least one stream of flowable substance in an at least partially non-linear manner toward one side of the web.

Sub b1
2. The method of claim 1, wherein said directing step includes the utilization of a nozzle having an orifice which discharges the at least one stream of flowable substance, and includes rotating the stream.

3. The method of claim 2, wherein said rotating step includes directing against the stream at least one flow of a fluid substance.

4. The method of claim 3, wherein the fluid substance is air.

5. The method of claim 3, wherein said stream directing step includes imparting to the stream the shape of a hollow cone having an apex in line with the orifice of the nozzle.

6. The method of claim 5, wherein said flow directing step includes causing the flow to impinge upon the stream at an acute angle.

7. The method of claim 6, wherein said angle at least approximates 30°.

8. The method of claim 6, wherein said flow is substantially tangential to said cone.

9. The method of claim 3, wherein said flow directing step includes causing the fluid substance to flow along a preselected path prior to and during issuance of the stream from the orifice of the nozzle.

10. The method of claim 3, further comprising the steps of pumping the flowable substance from a source to the orifice of the nozzle at a variable pressure and providing an open-and-shut closure for the orifice.

11. The method of claim 10, wherein said pumping step includes raising the pressure of the flowable substance to a predetermined value prior to opening of the orifice.

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12. The method of claim 11, wherein the opening of the orifice takes place approximately 0.5 second subsequent to raising of the pressure of flowable substance to said predetermined value.

13. The method of claim 3, further comprising the step of advancing the web lengthwise along said path at a variable speed.

14. The method of claim 13, further comprising the step of discharging the flowable substance from the orifice at a rate which is a function of the speed of advancement of the web along said predetermined path.

15. The method of claim 14, wherein said step of discharging the flowable substance includes varying the rate of discharge of flowable substance proportionally with variations of the speed of the web.

16. The method of claim 14, wherein said step of discharging the flowable substance includes discharging the flowable substance from the orifice at a rate of at least 2 grams per minute.

17. The method of claim 1, wherein the non-linear layer is a spiral layer.

18. The method of claim 1, wherein the flowable substance is an adhesive.

19. A method of making a filter for tobacco smoke, comprising the steps of:

advancing a tow of filter material for tobacco smoke along a first path;

advancing a web of wrapping material lengthwise along a second path toward and into said first path;

applying to one side of the web in said second path a non-linear layer of adhesive extending lengthwise of the web; and

draping the adhesive-bearing web around the tow in said first path.

20. The method of claim 19, wherein said applying step includes applying adhesive to one of two marginal portions and to an intermediate portion of the web adjacent the one marginal portion, said draping step including bonding the marginal portions to each other and bonding the intermediate portion to the tow.

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21. Apparatus for applying an adhesive substance to a running web of wrapping material for rod-shaped smokers' products, comprising:

means for advancing the web lengthwise along a predetermined path;

a nozzle adjacent a portion of said path and arranged to discharge a stream of adhesive substance against one side of the web in said path; and

means for varying the direction of propagation of the stream so that the adhesive which deposits on the web forms at least one non-linear layer.

22. The apparatus of claim 21, wherein said means for varying includes means for directing against the stream of adhesive substance at least one jet of a gaseous fluid.

23. The apparatus of claim 21, wherein said means for varying includes means imparting to the non-linear layer the shape of a spiral.